KINETEC™

SHOULDER
C.P.M. MACHINE

OPERATING MANUAL

Kinetic 7081

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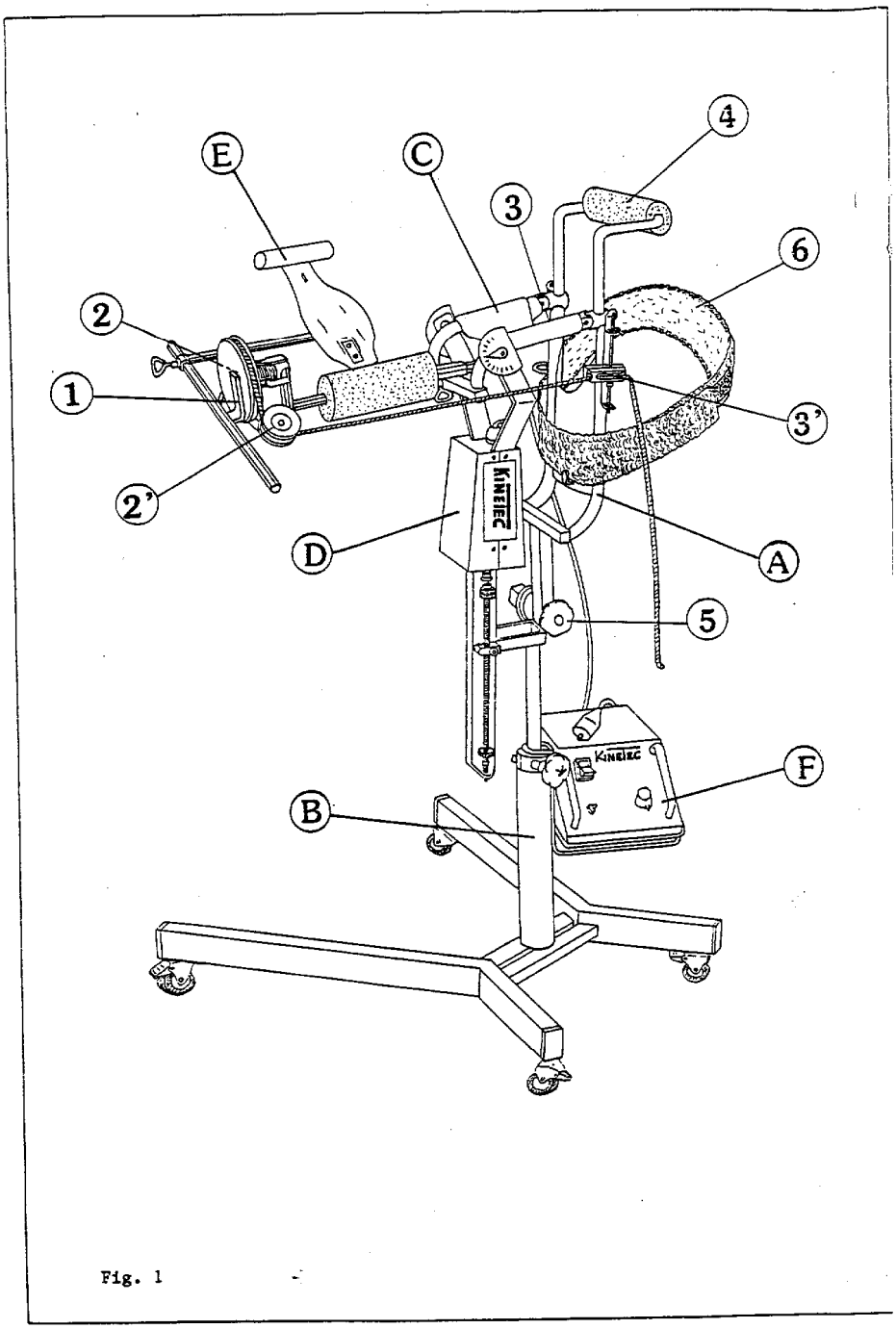

Fig. 1

1 FUNCTIONS

The KINETEC 7081 IS A C.P.M. machine for the shoulder. The machine is capable of the following movements :

- abduction movement only
- abduction movement combined with external rotation
- frontal elevation
- it also ollows the ACTIVE internal and external rotations

A patient can be seated when using the machine
The frontal elevation can also be used by bed-bound patient in a semi-reclined position.

2 DESCRIPTION

The C.P.M 7081 is composed of the following parts :

- The thoracic frame (A) is mounted on a telescopic column (B). The column is placed on a moveable base which is equipped with a locking mechanism.
- The arm support (C), jointed on the thoracic frame is driven to abduction-adduction by the motor (D).
- The forearm support (E) is mounted on a pivot and allows external and internal and internel rotations of the arm.
- The control box (F).

A - THORACIC FRAME
B - TELESCOPIC COLUMN ON BASE
C - ARM SUPPORT
D - MOTOR
E - FOREARM SUPPORT
F - CONTROL BOX

1 - Forearm rotation pivot
2-2' - Intermediary pulleys
3-3' - Red clamp
4 - Padded shoulder bar
5 - Apparatus adjustment
6 - Thoracic strap

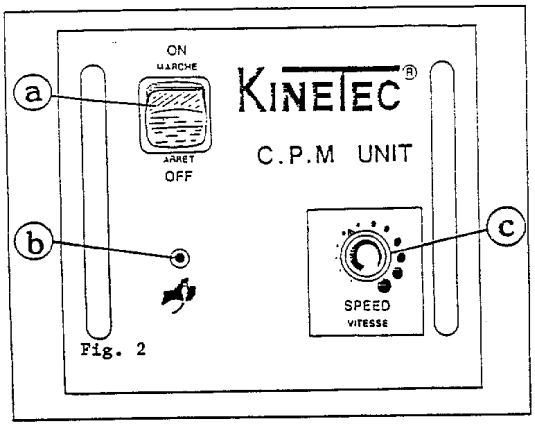

Fig. 2

2-1 FRONT PANEL (Fig.2)

a - Switch ON / OFF.

b - Patient switch signal.

c - Speed selector knob.

2-2 BACK PANEL (Fig.3)

d - Fuse.
e - Main circuit plug.
f - Main circuit cord.
g - Cord to the C.P.M machine.
h - Remote control.
i - Socket for remote control plug.
j - Socket for C.P.M plug.
k - Ground terminal.
l - Rear plate.

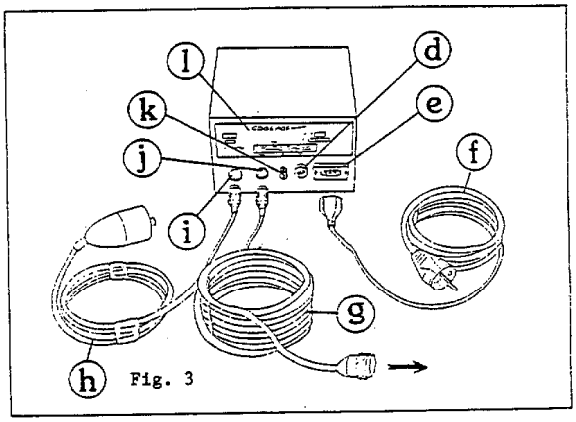

Fig. 3

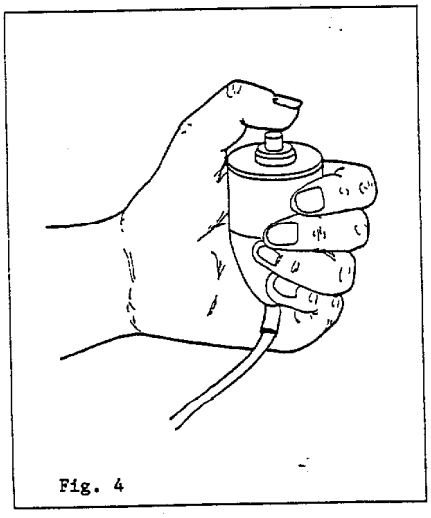
Fig. 4

2-3 THE REMOTE CONTROL SWITCH (Fig.4)

Driving the mobilization :

- The 1st press stop the unit.
- The 2nd press reverse the mobilization.

4 OPERATING INSTRUCTIONS

Electrical Connections : Safety First.

Before plugging in the machine, make certain that the available voltage corresponds to the voltage indicated on the back of the control box. (110v-220v)

IMPORTANT

Make certain that the plug will fit into the socket being used. The socket must be grounded.

WE ARE NOT RESPONSIBLE FOR ACCIDENTS OCCURRING BECAUSE OF IMPROPER USE.

Connect the cords to the back of the control box (Fig.3)
- cord (g) in (j),
- main circuit cord (f) in (e),
- cord of the remote control (h) in (i).

ATTENTION

The cables must be inserted and screwed into their respective sockets.
Make certain all the cords are free of the machine when it is in operation.

5 MACHINE OPERATION

The physician must : - define the limits
- determine the speed
- start the machine.

5-1 ADJUSTMENT THE LIMITS (Fig.5)

The physician position the cursors M and M' on the theaded rod and locks them with the safety nuts N and N'.
The graduated scale placed on the driving-screw casing gives only an approximate measurement.

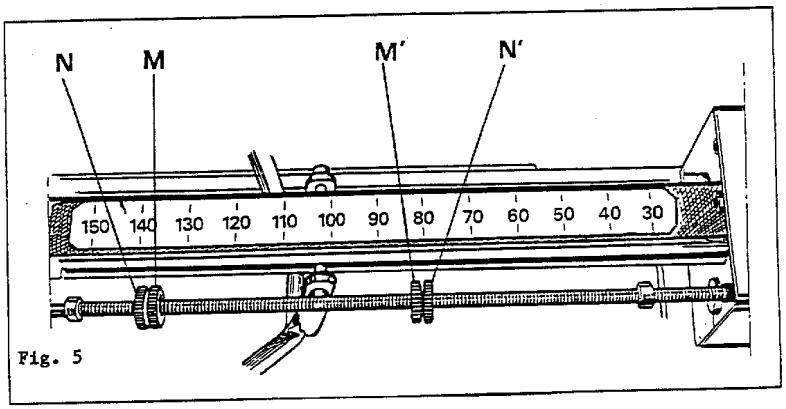

Fig. 5

4-2 SETTING OF THE SPEED

The speed is set by turning button (c). (Fig.2)
At maximum speed, the machine moves from 30° to 150° abduction in 58"
At minimum speed the machine follows the same motion (30°-150°) in 3'16".

All intermediate speeds are possible.
The speed times mentioned above are approximate and can vary according to the voltage levels.

4-3 STARTING THE MACHINE

The physician has set the limits and the speed. He starts the machine by switching "ON" the button (a) ,located on the front panel. The green light (a) indicates that the machine is ON.

5 SET UP THE MACHINE (Fig. 6)

Mounted the forearm support (1) on the right or on the left guide (2).

Pad the arm support (3) and forearm support (1).

6 PLACEMENT OF THE PATIENT

- The mobilization should always be started at the minimal abduction position 30°.
- The patient is placed in a sitting position on a stool, the ribs come in contact with the thoracic frame (4).
- If necessary the physician may loosely bind the machine to the patient by using the large strap (5).
- Adjust the height of the machine on the telescopic column (A), the axis should be at the level of the gleno-humeral joint.
- Ajust the position of the forearm support on the guides (2) and (7) according to the lenght of the arm.
- Position the padded shoulder bar (8) placing it OVER the TRAPEZAL muscle.
- Position the height allowing 3 cm between the padded bar and the shoulder.

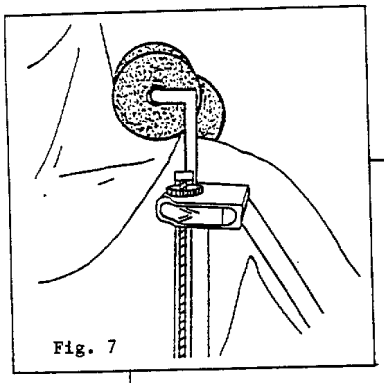

Fig. 7

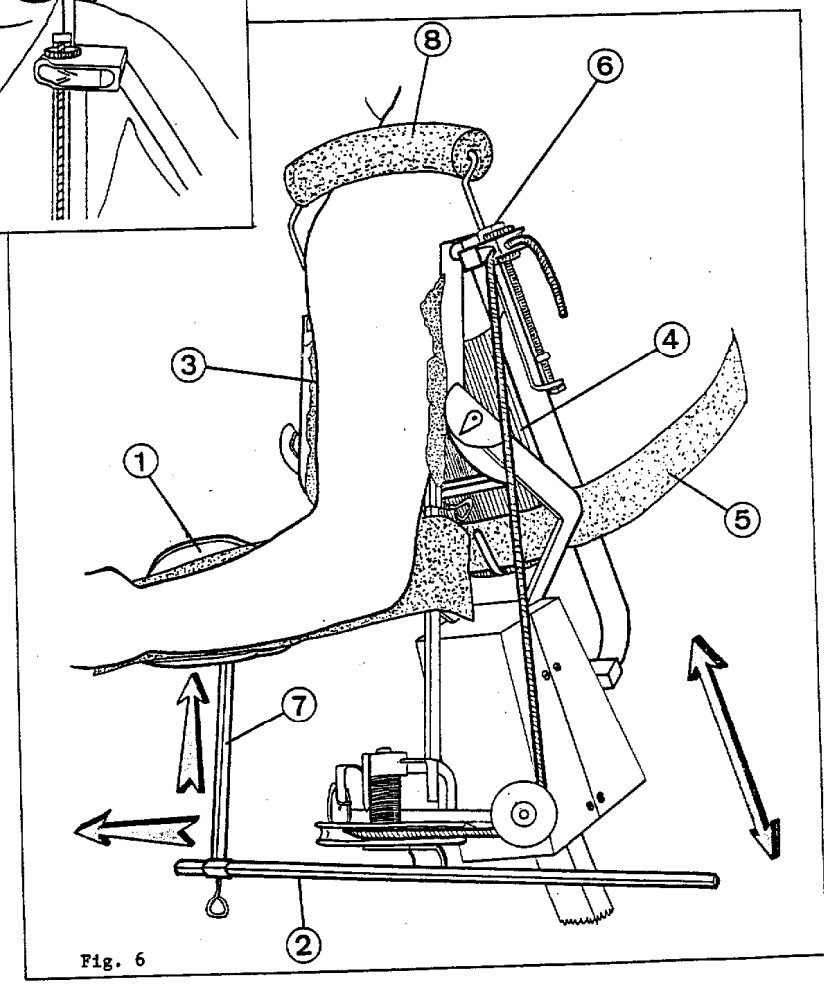

Fig. 6

7 CAPABILITIES

The 7081 C.P.M machine has 4 basic capabilities :

1) Passive Abduction only,
2) Passive abduction with external rotation,
3) ACTIVE external and internal rotations,
4) Passive frontal elevation.

7-1 PASSIVE ABDUCTION ONLY

The machine describes an arc between 30° to 150° of abduction (Fig.8).
Throughout this mouvement, the rotation angle of the arm remains constant.
The angle chosen by the physician will be between 20° of internal rotation and 90° of external rotation, a protracted scale on the inner face of the central pulley indicates the degree of rotation.
NOTE : To adjust for abduction only, the minimum starting position is 30°.

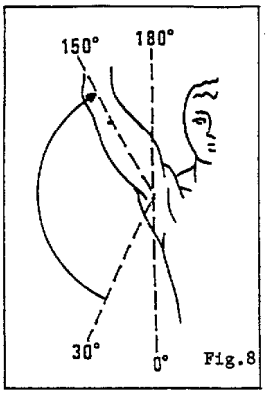

Fig.8

- Set the RED CLAMP at the TOP of the guide (Fig.10 and 11).
- Put the cord on the intermediary pulley and thread it throught the red clamp.
- Position the forearm support to obtain the desired arm rotation.
- Tighten the cord and wedge it in the red clamp (Fig.14 et 15).

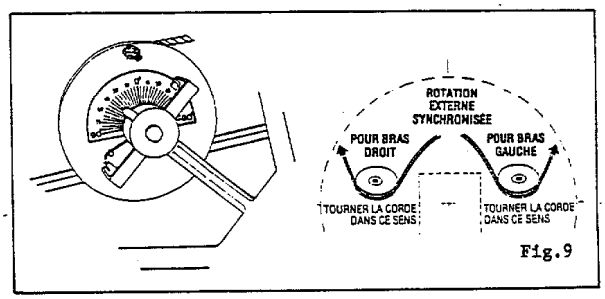

Fig.9

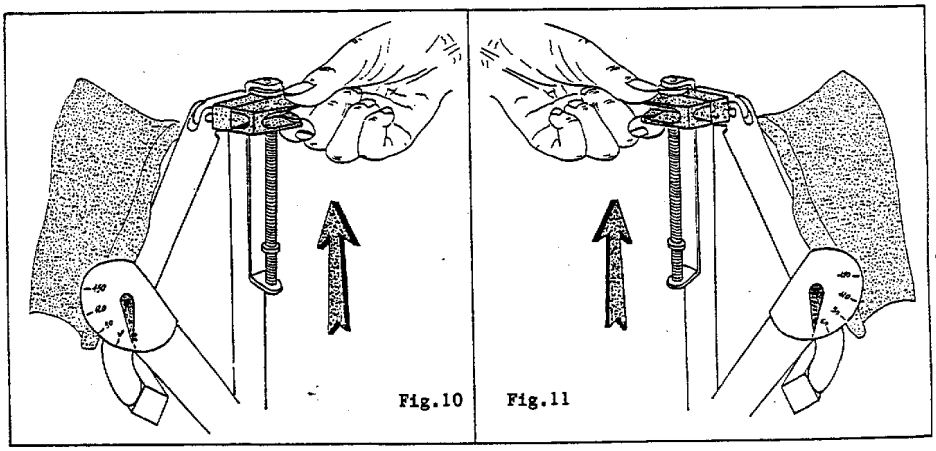
Fig.10 Fig.11

LEFT SHOULDER

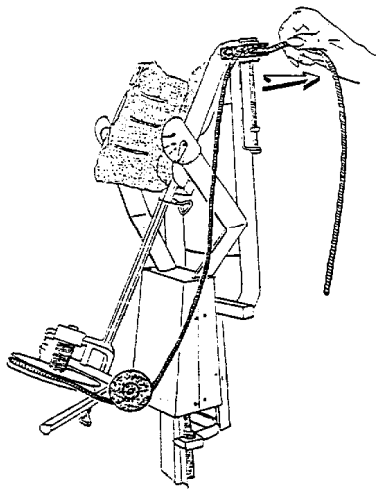

Fig.12

RIGHT SHOULDER

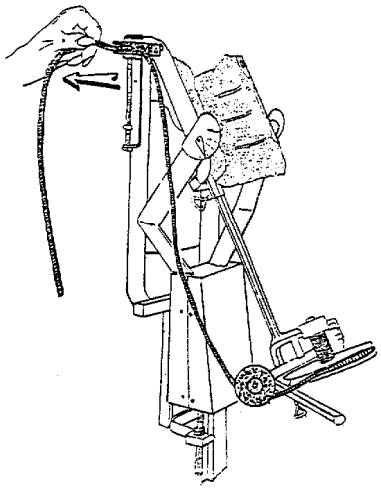

Fig.13

LEFT SHOULDER

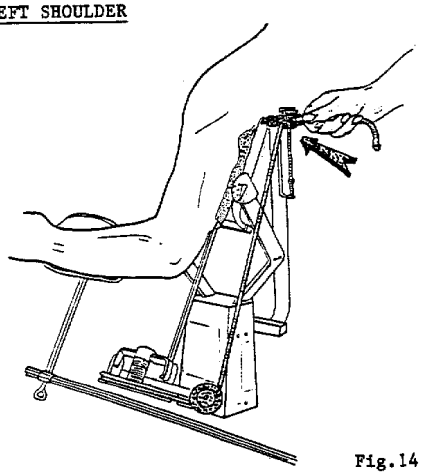

Fig.14

RIGHT SHOULDER

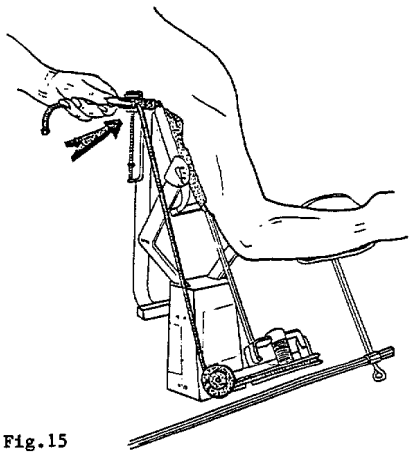

Fig.15

7-2 ABDUCTION COMBINED WITH EXTERNAL ROTATION

LEFT SHOULDER

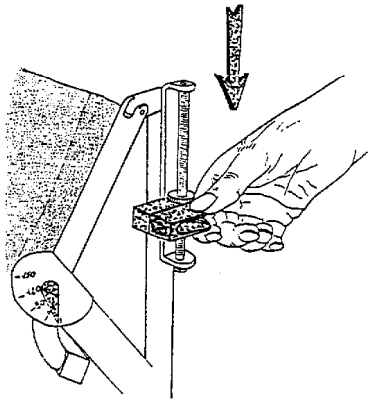

Fig.16

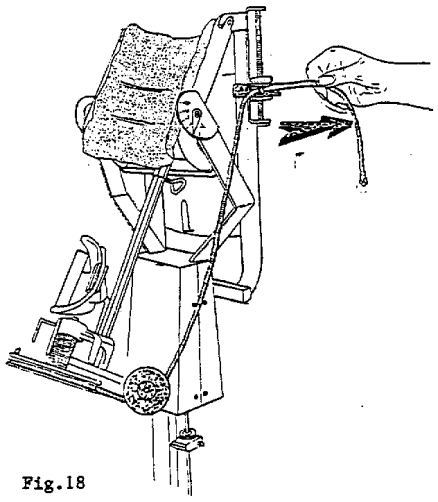

Fig.18

RIGHT SHOULDER

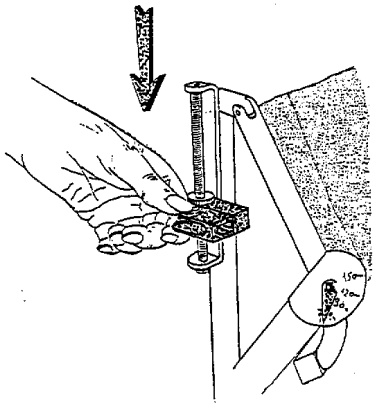

Fig.17

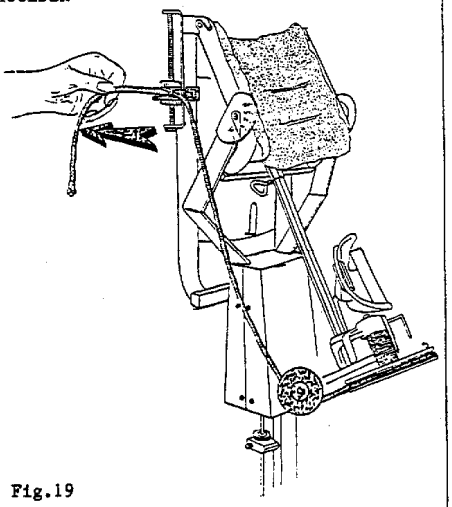

Fig.19

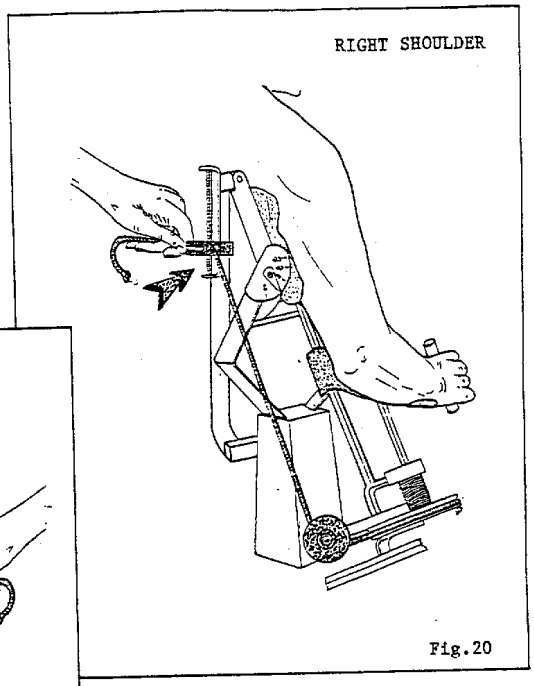

Fig.20

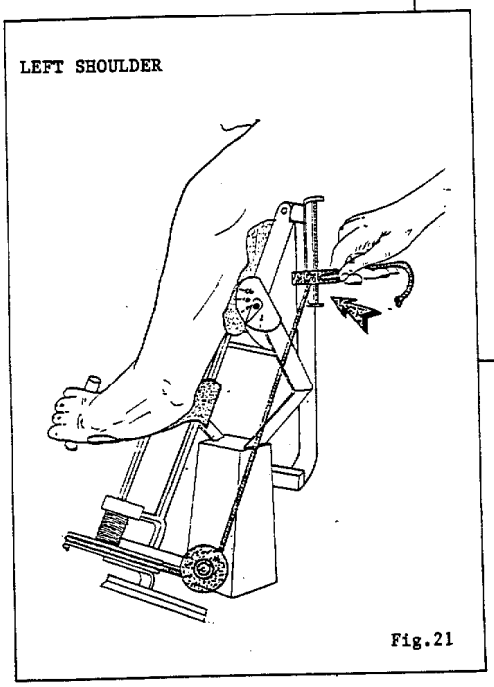

Fig.21

NOTE : To adjust for abduction, the minimum starting position is 30°.
To adjust for external rotation, the minimum starting position of the forearm support is 20° of internal rotation.
Position the RED CLAMP at THE BOTTOM of the guide (Fig.16 and 17).
Put the cord in the intermediary pulley and thread it through the clamp (Fig.18 and 19).
Tighten the cord and wedge it in the red clamp (Fig. 20 and 21).
In 120° of abduction, the combined rotation of the arm will go from 20° of internal rotation to 90° of external rotation.
To achieve a lesser external rotation, move the red clamp up on the guide.
The higher the clamp is moved on the guide, the less rotation will occur.

7-3 ACTIVE EXTERNAL AND INTERNAL ROTATIONS

The motor should be off when the arm is positionned at 90° of abduction.

The patient is seated, the ribs making contact with the thoracic frame.

To achieve assisted external rotation, place the balancing weight in position (A) (Fig.22).

To achieve loaded external rotation, place the balancing weights in position (B)(Fig.23).

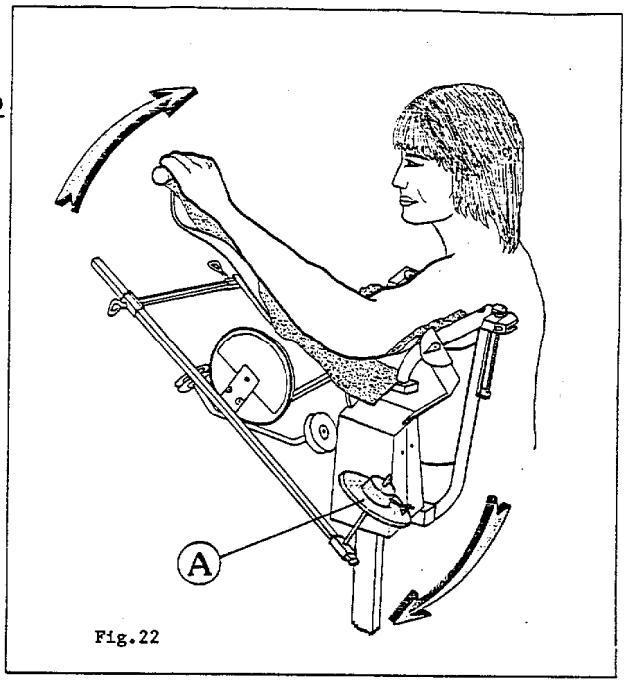

Fig.22

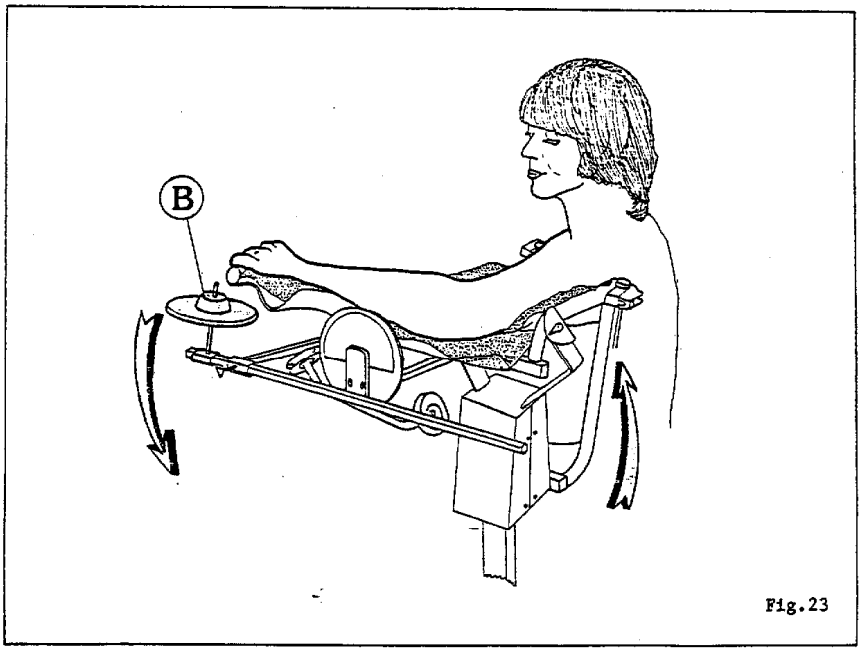

Fig.23

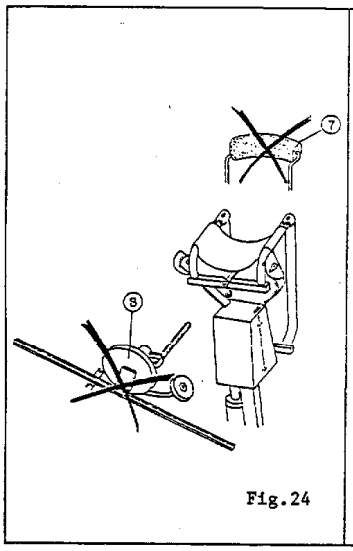

Fig.24

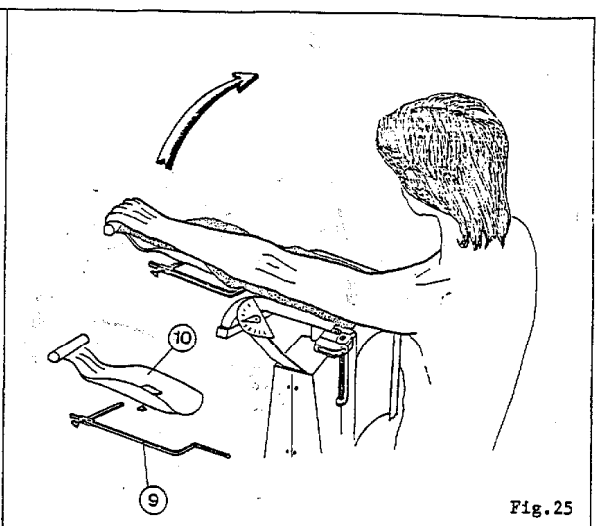

Fig.25

7-4 PASSIVE FRONTAL ELEVATION

- Take off the shoulder bar (7)(Fig.24).
- Take off the forearm rotation pivot (8).
- Set the rod (9) (Fig.25) .
- Set the forearm support (10) on the rod (9).
- Place the machine in front of the shoulder to be mobilized.
- Place the arm on the machine.
- Adjust the position of the forearm support according to the lengh of the arm.

This mobilization could be used by a bed-bound patient in a semi-reclined position (Fig.26) in this case :

- Move the patient to the side of the bed.
- Place the machine at the side of the bed.
- Incline the machine by setting the apparatus adjustment

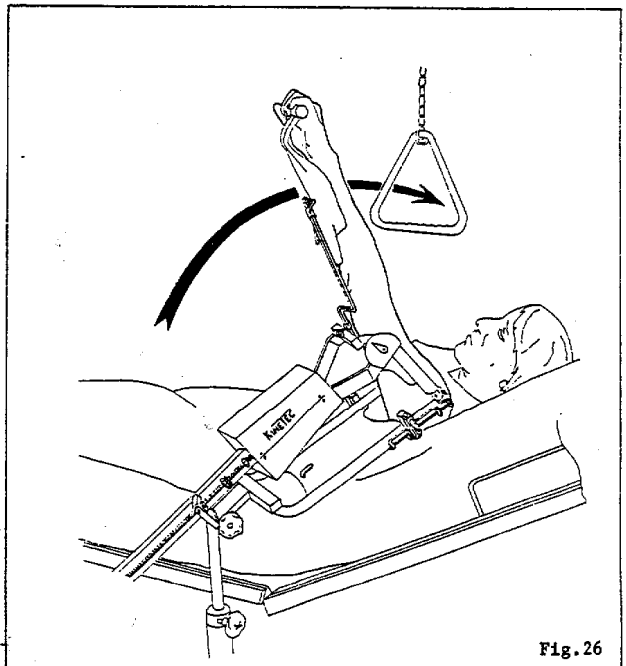

Fig.26

9 UTILIZATION

The physician and patient should read the chapters "SAFETY FIRST" and "MACHINE OPERATION".

After making necessary adjustment, it is advised that the machine be started at the minimum speed. In addition, the physician should observe the initial cycles of the machine.
The physician should determine the length of time the patient will be mobilized.
The proper use of the machine in manual mode will be explained by the following :
The physician or patient should assimilate all informations about the patient switch.
After making necessary adjustments, begin mobilisation with brief finger pressure on button of the patient switch. One push stop the unit, the second push reverse the movement.
After several trials, the patient will be able to operate the machine with confidence and can carry out the prescribed program.

10 CLEANING THE APPARATUS

The bare machine the control box, the patient switch can be desinfected with gaz. The pads made of polyester are washable.

11 MAITENANCE

The driving screw and nut should be lubricated once a year.
Clean the driving screw with compressed air or vaccum cleaner with the appropriate attachment.
Maintenance is not necessary for the motor.

12 TECHNICAL SPECIFICATION

- Current typ : 220 V or 110 V
- Fréquency : 50/60 Hz
- Electric power : 200 mA/24 V
- Protection fuse : 0,315 A . 220 volts
  0,630 A . 110 volts
- Appareils of typ B classe I

Indiquer must be always replace by some type and some rate of fuse.

See the technical aid of catalogue of spare parts for any maintenance other than eleamy and fuse replacement.